ColdFire® Convert 1.0 Users Manual

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The ColdFire Convert 1.0 (CF) is a free engineering tool developed to generate data files for any ColdFire device with liquid crystal display (LCD) controller support. This program generates C/C++ header files for any embedded programming project. CF Convert provides a user-friendly graphical user interface (GUI). The source code is unavailable for public distribution.

Table of Contents

CF Convert 1.0 User Manual 1
1 System Requirements 1
2 CF Convert 1.0 Operation 2
2.1 Working with the File Menu 2
2.1.1 Open File(s) 2
2.1.2 Select Input Directory 2
2.1.3 Select Output Directory 2
2.2 Converting Image Files 3
2.2.1 Convert 3
2.2.2 Getting Help 3
2.2.3 About 3
2.3 Software Specifications 3
2.3.1 Supported Files 3
2.3.2 Naming Conventions 3
2.4 BMP to LCD Output Header Conversion List 4
2.5 Filename Convention 4
3 Troubleshooting 4

1 System Requirements

Operating System:

- Windows 2000/XP™ with .NET framework™ (available from Microsoft's website)

PC Hardware Requirements:

Processor and Memory:

- Pentium 3™ 533 MHz or better with 256 MB or more RAM

Hard Drive Space:

- At least 10 MB of drive space to install. More space is required for storing output files.
- Any ColdFire device with LCD controller support

2 CF Convert 1.0 Operation

2.1 Working with the File Menu

2.1.1 Open File(s)

To convert an image, select the open-file(s) option from the file menu. The file browser window will open in which the .bmp files may be selected. To select one, click on the file then press okay. The selected file will appear on the main screen in the text window. The file browsing window also gives the option to select multiple files. To select multiple .bmp files within a directory, hold down the control key while clicking on various filenames. Once all desired Windows™ .bmp files are selected, click okay; the filenames appear in the selected-files text box.

NOTE

This program automatically sets the output directory as the directory that the files were chosen from.

2.1.2 Select Input Directory

Another option available for selecting Windows™ .bmp files is the select-input-directory option. This option allows the user to select one folder that contains multiple .bmp files. The program automatically extracts all .bmp filenames in a selected folder and displays them in the selected-files text box. To access this option, click on the file menu; choose select input directory. A folder browser window opens. Click on a folder containing .bmp images.

NOTE

- Only one input directory may be selected.
- If individual files have been selected, and this menu option is chosen, the previous files are cleared. Additionally, all files from the new input directory will be displayed instead. Both options cannot be used simultaneously.
- Unlike the open-file(s) option, this selection will not generate a default output directory. The output directory must be chosen.

2.1.3 Select Output Directory

The select-output-directory menu option allows the user to choose where output-header files are stored. To use this, click on file menu and then click on the select-output-directory option. Another folder

browser opens in which an output folder can be selected. Click on the desired folder. The output-directory text box will display the drive name and the last path of the selected folder. See Example 1:

Example 1. C:\Program Files\Common Files will appear as C:…\Common File

The text box at the bottom of the window shows an output directory was specified.

NOTE

Creating a new folder allows the user to specify an output folder.

Only one output directory may be selected.

2.2 Converting Image Files

2.2.1 Convert

Once the file(s) is selected and the output directory is specified, header files can be generated. To do so, hit the convert button in the main window. The text box displays any errors and which file(s) are converting.

2.2.2 Getting Help

Selecting manual from the help menu bar opens the instructions on how to use this program.

2.2.3 About

Select about in the help menu to display the software version.

2.3 Software Specifications

2.3.1 Supported Files

The standard, non-compressed, Windows™ bitmap image is the only supported graphic format. JPEG, GIF, TIFF, etc., are not supported.

2.3.2 Naming Conventions

To ensure the character-array-variable name created inside of the generated header files are of proper C/C++ syntax, all valid graphic filenames must end in .bmp.

2.4 BMP to LCD Output Header Conversion List

Bitmap Input File(s)	LCD Output File(s)	
	BPP	Color Palette/Monitor Type
24 Bit Color (True Color)	12	4K/(TFT)
	16	64K/(TFT)
	18	256K/(TFT)
256 Color (8 BPP)	8	4K/(CSTN)
	8	256K/(TFT)
16 Color (4 BPP)	2	4 Level Gray Scale /(Monochrome)
	4	16 Level Gray Scale/(CSTN)
	4	4K/(CSTN)
	4	256K/(TFT)
Monochrome (1 BPP)	1	Black & White/ (Monochrome)

2.5 Filename Convention

LCD header filenames are created using a naming convention. See convention examples below:

(Filename)_(bmp)_(<BPP value>bpp)_(Color Palette Size)_(lcd).(h)

Example 2.

Running the conversion utility on an 18bpp bitmap file creates:

(Filename)_bmp_18bpp_256k_lcd.h

Example 3.

Running the conversion utility on a 4bpp gray scale bitmap file creates:

(Filename)_bmp_4bpp_16gs_lcd.h

Example 4.

Running the conversion utility on a 1bpp bitmap file creates:

(Filename)_bmp_1bpp_bw_lcd.h

3 Troubleshooting

Q. Why do I get the message, “Error: <Filename> cannot be opened for reading”?

- Make sure filename is named properly, as outlined in the software specifications under naming conventions. If file is damaged, the program will not import the image.

Q. Why do I get the message, “Error: <Filename> has a bad bitmap header”?

- The file must be a Windows™ .bmp file, not a file with an added .bmp filename extension.

Q. Why do I get the message, “Error: <Filename> is compressed or not X32”?

- CF Convert works only with non-compressed Windows™ bitmap image files. The image width `must be a multiple of 32 to be processed correctly.

Q. Why do I get the message, “Error: <Filename> has unsupported color bit-depth”?

- CF Convert supports only 24-bit depth, 256 color, 16 color, and monochrome for Windows™ bitmap files. Other combination are not read.

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